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Volume 218, Number 1 (1996): Takayuki Sugiura, Sachiko Kondo, Akihiro Sukagawa, Takashi Tonegawa, Shinji Nakane, Atsushi Yamashita, and Keizo Waku, ‘‘Enzymatic Synthesis of Anandamide, an Endogenous Cannabinoid Receptor Ligand, through N-Acylphosphatidylethanolamine Pathway in Testis: Involvement of Ca^{2+}-Dependent Transacylase and Phosphodiesterase Activities,'' pp. 113–117 206
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Volume 219, Number 2 (1996): Hirotaro Iwase, Takehiko Takatori, Masataka Nagao, Kimiharu Iwadate, Megumi Takahashi, Makoto Nakajima, Toshie Takahashi, and Takao Shimizu, "Superoxide Anion Reduces the Ability of Myeloperoxidase to Damage Lipids," pp. 625–632 695
Volume 222, Number 2 (1996): Mee-Kyung Cha and Il-Han Kim, "Glutathione-Linked Thiol Peroxidase Activity of Human Serum Albumin: A Possible Antioxidant Role of Serum Albumin in Blood Plasma," pp. 619–625 695
Volume 224, Number 2 (1996): Minoru Okubo, Yoshiko Aoyama, and Toshio Murase, "A Novel Donor Splice Site Mutation in the Glycogen Debranching Enzyme Gene Is Associated with Glycogen Storage Disease Type III," pp. 493–499 695

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